asphalt left in place shall be coated with asphalt binder before placing the asphalt. The asphalt shall be compacted by multiple passes with a vibrating compactor. The final asphalt surface shall be ± 1/4 inch of the final grade requirements, as defined in Section 1.10.1. Specifications for sub-base and asphalt materials are included in Sections 2.6 and 2.7.

1.10.5 Re-establish Grass Areas

Only those grass areas existing prior to excavation and within the Work Areas are to be restored by the Contractor. Site restoration shall include placing 6 inches of topsoil on top of the fill and grading and compacting the topsoil to establish the final grade requirements. The top surface of the soil shall be hand-raked to remove small stones and to loosen the surface in preparation for seeding. The Contractor shall reseed the grass areas and mulch with straw. Topsoil specifications are attached in Section 2.2.

Grass areas, as shown on plate 1, outside of the Work Areas, as shown on plate 3, that have been damaged during the course of this project shall be restored by the Contractor. Restoration shall consist of regrading any ruts, top dressing disturbed areas with top soil, reseeding with grass and mulching.

1.10.6 Fencing

All posts and chain-link fencing removed from the perimeter of Sump 3 prior to excavation shall be reinstalled by the Contractor to their pre-excavation location, as shown on plate 3.

1.10.7 Replacement of Concrete Pad and Dust Collection Equipment

A reinforced concrete pad, 6 inches thick and having the dimensions of 10 feet by 10.2 feet, shall be constructed by the Contractor in the same location behind the pilot plant as

the pad removed during site preparation. Reinforcing wire mesh shall be supported 2 inches above the surface of the fill so that is shall be embedded in the concrete. The reinforcing wire shall extend over the entire pad, to a point 2 inches from the sides of the pad. The pad shall be poured on top of fill compacted as described in Section 1.10.1, shall be set at the same relative elevation as the previous pad as determined in Section 1.6.3, and shall have a top surface sloped away from the building at 1/2 inch fall per 10 feet run. The Contractor shall maintain the proper environment for curing the concrete by keeping the pad moist and covered for 7 days. Concrete and reinforcement specifications are presented in Sections 2.3 and 2.4. No sooner than 14 days after the pad is poured, the dust collection equipment shall be repositioned to its pre-excavation location and secured to the concrete pad by the Contractor. Power to the dust collection equipment shall be reconnected by the Contractor.

1.11 Demobilization

At the conclusion of the remedial project, and following conditional acceptance of the Contractor's work, the Contractor shall demobilize all equipment and temporary facilities from the site. Contractor shall remove and repair all utility splicing completed during the mobilization phase of the project. The demobilization shall be completed in such a manner as to expeditiously remove all equipment and personnel from the site.

At the conclusion of the demobilization activities, the Contractor shall accompany the Owner's Site Representative, the USEPA onsite coordinator, and authorized Ruco personnel in a final site inspection. The inspection shall be used to assure that all restoration and demobilization activities have been completed to the satisfaction of the Owner's Site Representative and Ruco personnel. Deficiencies noted during the final site inspection shall be corrected by the Contractor

in an expeditious manner. Should all site conditions be found satisfactory, the Contractor shall be informed by the Owner and the demobilization process shall be considered complete.

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PART 2 SPECIFICATIONS

2.1 Fill Material

Fill material shall be gravelly sands of SW or SP Unified Soil Classifications. The fill material shall not contain cobble size or larger rocks and no more than 15 percent of the gravel shall be larger than 2 inches in the largest dimension. The material shall not contain more than 5 percent fines passing a No. 200 sieve. The material shall be free of stumps and other unsuitable debris. All fill material brought onsite must be tested for Target Compound List (TCL) compounds and the eight RCRA metals using TCLP and demonstrated to be free of unacceptable concentrations of chemical compounds. Certification that the material meets these specifications and copies of the supporting laboratory results must be provided to the Owner's Site Representative prior to use as backfill. No soils excavated from the Work Areas shall be used as fill.

2.2 Topsoil

All soils used for topsoil shall be loamy soil as defined by the United States Department of Agriculture (USDA) on the basis of grain size components. The topsoil shall be free of stones, roots and debris. The topsoil shall be screened through a mesh with maximum spacing of 3/4 inch. Up to 8 percent gravel may be included in the topsoil. The topsoil shall contain a minimum of 5 percent and a maximum of 15-percent organic matter. The topsoil shall be inspected by the Owner's Site Representative prior to staging the material onsite. The inspection shall be completed to verify that the topsoil consists of loose, friable, sandy loam, free of subsoil, refuse, stumps, roots, rocks, brush, weeds or other material which would be detrimental to the proper development of vegetative growth.

2.3 Poured Concrete

Poured concrete shall have a unit weight of 140 to 150 lbs/ft^3 and a minimum 28-day compressive strength of 3,000 psi. The mix for 1 cubic yard of wet concrete shall be as follows: 517 lbs of portland cement, 300 lbs of water, 1,270 lbs of fine aggregate, and 1,940 lbs of coarse aggregate. Fine aggregate is defined as material passing a No. 4 sieve. Coarse aggregate is defined as material passing a 3/4-inch sieve and being retained on a No. 4 sieve. All aggregate shall be free of organic matter and other undesirable debris. The water shall be of suitable quality so as not to affect the strength of the concrete. The concrete consistency must fall within a 3 to 5-inch slump as determined by a slump test.

2.4 Reinforcing Steel

A welded wire fabric, type WWF 3x3-D11xD11, shall be used for reinforcing the poured concrete pad. The welded wire shall have a minimum yield strength of 40,000 psi.

2.5 Settling Basins

The settling basins shall be made of precast concrete that has been poured and formed as a one piece unit. The settling basins shall have the dimensions of 4-feet wide by 4-feet long by 4-feet deep and shall be able to support a standard 2-foot diameter cast iron manhole rim and cover. The settling basins shall have knockouts, of the proper size and location, to accept the necessary storm sewer pipe. Connecticut State Highway Department Standard Type CL settling basin with 4-foot deep sump having 6-inch thick walls and base, or a performance equivalent shall be used.

2.6 Sub-base Material

Granular sub-base shall be a mixture of fine and coarse aggregate consisting of crushed stone, crushed slag or crushed

gravel. The coarse aggregate, that retained on a No. 4 sieve, shall be capable of withstanding the effects of handling, spreading and compaction without degradation. The fine aggregate, that passing a No. 4 sieve, shall consist of particles from the operation of crushing coarse aggregate at the source. The gradation of the final composites mixture shall conform to the following requirements:

Sieve size (United States standard square openings)	Range percentage passing	Job mix tolerances
2 1/2 inches	100	--
1/2 inches	88 - 100	±5 percent
3/4 inches	60 - 97	±10 percent
3/8 inches	40 - 77	±10 percent
No. 4	25 - 60	±10 percent
No. 30	7 - 30	±5 percent
No. 200	0 - 10	±3 percent

2.7 Asphalt

All asphalt shall meet the requirements of "Base Course" asphalt as described by New York State Mix 1A Base Type 2 (New York State Item 403.12).

2.8 Concrete Pipe

Precast concrete drain pipe with ball and socket connection shall be used to replace all removed drain pipe. The pipe shall be fabricated with high strength concrete and must be capable of withstanding a crushing force of 100 psi. The concrete pipe used to replace existing drainage structures shall be required to be of the same dimension as existing material.

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